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09/217,937	12/22/1998	HITOSHI ONODA	862-2583	3759

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EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 07/19/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/217,937

Applicant(s)

ONODA ET AL.

Examiner

Timothy J Henn

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Please note that the examiner of record has changed. All future correspondence should be directed to Timothy J. Henn whose information is provided at the end of this office action.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 8-19 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants admitted prior art in view of Yoshino et al. (US 5,682,559).

#### **[claim 1]**

In regard to claim 1, note that the applicants admitted prior art (hereinafter referred to as AAPA) discloses a well known optical device comprising an area discriminating means for discriminating a plurality of areas in a sensed image on the basis of a predetermined condition as shown in figures 15a - 15c and a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing the probability

equation listed in the applicants prior art. The applicant also discloses that it is well known to perform a focus adjustment based on the detected main object but does not show a main objected area changing means for changing the main object area to another area and a controller which maintains focus on a first main object area until a new main object area is selected, and in the event that a new main object area is selected causes the optical device to focus on the new main object area.

Yoshino et al. (hereinafter referred to as Yoshino) discloses a main object changing unit which allows a user to change the object which an optical device is focusing on to allow the user to select the appropriate focus area to obtain an image consistent with the user's wishes (Figure 5(a); Item 17; Figure 6; Figure 7; c. 2, ll. 33-43). Yoshino further discloses an auto-focus (AF) system which maintains a focus on an area until a new area is selected, and then shifts focus to the new area (Figure 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the user to select the area to be focused and change the focus to the new area when selected to allow the user to view the results of the new focus arrangement as taught by Yoshino.

**[claim 2]**

In regard to claim 2, note that the main object changing unit as disclosed by Yoshino has a direction designation unit (Figure 5(a), Item 17) that designates a direction (i.e. left or right) which is perpendicular to an optical axis of the optical device, and the main object area changing unit determines an area next to the main object area in the direction designated by the direction designation unit as the new main object area

(Figure 6).

**[claim 3]**

In regard to claim 3, note that Yoshino discloses a direction designation unit is capable of rotating at least in two directions (Figure 5(a), Item 17; c. 6, ll. 28-30; The office note that by pushing the switch on one side the switch is effectively rotated by a small amount about an axis). It is further noted that Yoshino disclosed the use of dial (i.e. a rotary operation member) as an alternate possibility for controlling the position of the main object area (c. 1, l. 63 - c. 2, l. 3).

**[claim 8]**

In regard to claim 8, note that the direction designation member is operated manually (i.e. by pressing a switch; Figure 5(a), Item 17; c. 6, ll. 28-30).

**[claim 9]**

In regard to claim 9, AAPA discloses an area discrimination means that discriminates a plurality of areas in an object image based upon distances to objects included in the image as shown in figures 15a - 15c. Figure 15b shows a distance measurement that returns the detected object distance to the camera. The detected distances in figure 15b are compared to each other to determine separate objects in an image scene and are grouped accordingly in figure 15c. The applicant does not disclose a main object changing means for designating a new object.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be

advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yoshino with the AAPA to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

**[claim 10]**

In regard to claim 10, note that Yoshino discloses a direction designation unit which is a focusing member of an image sensing optical system (c. 6, ll. 20-30; The office notes that since the switch of Yoshino changes the focus of the optical system it is inherently a "focusing member").

**[claim 11]**

In regard to claim 11, note that the direction designation member is operated manually (i.e. by pressing a switch; Figure 5(a), Item 17; c. 6, ll. 28-30).

**[claim 12]**

In regard to claim 12, the applicant discloses a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object by inputting the size and position of each area into a probability equation listed in the AAPA.

**[claim 13]**

In regard to claim 13, note that the main object determining means disclosed by the AAPA automatically determines the main object area.

**[claim 14]**

Referring to claim 14, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44).

In changing the main object area of the applicant's prior art using the teachings of Yoshino, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a

scene.

**[claim 15]**

Referring to claim 15, the applicant discloses a main object area determination means for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

Referring to claim 16, the applicant discloses a well known method of focusing an object image comprising an area discriminating step for discriminating a plurality of areas in a sensed image on the basis of a predetermined condition as shown in figures 15a – 15c and a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing the probability of each area by inputting the size and position of each area into a probability equation listed in the applicants prior art. The applicant also discloses that it is well known to perform a focus adjustment based on the detected main object but does not show a main object area changing means for changing the main object area to another area.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). Therefore it would have been obvious to combine



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the teachings of Yoshino with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

**[claim 16]**

Referring to claim 16, the applicant discloses a well known method of focusing an object image comprising an area discriminating step for discriminating a plurality of areas in a sensed image on the basis of a predetermined condition as shown in figures 15a – 15c and a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing the probability of each area by inputting the size and position of each area into a probability equation listed in the applicants prior art. The applicant also discloses that it is well known to perform a focus adjustment based on the detected main object but does not show a main object area changing means for changing the main object area to another area.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). Therefore it would have been obvious to combine the teachings of Yoshino with the applicants conceded prior art to provide a main object changing means for changing the main object to another area that the user intends to be the main object.

**[claim 17]**

Referring to claim 17, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the AAPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). In changing to a next area to be selected as the new main object, it would have been obvious to one of ordinary skill in the art to provide some means of cycling through the object areas in the scene in an order such as selecting an area next to the current main object instead of randomly choosing a new main object so the user can systematically change the object area.

**[claim 18]**

Referring to claim 18, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the AAPA can also detect object areas such as the clouds in

figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). In changing the main object area it would have been obvious to designate a direction relative to the current main object such as right or left to move the main object horizontally to be one of the walls as shown in figures 15a – 15c, or move the main object selection vertically to select the clouds also shown in figures 15a – 15c thereby selecting the main object from two directions horizontal and vertical.

**[claim 19]**

Referring to claim 19, the applicant discloses an area discriminating means that can detect object areas horizontally perpendicular to the central optical axis such as the walls and trees in the example scene in figures 15a – 15c, and also the area discriminating means of the AAPA can also detect object areas such as the clouds in figures 15a – 15c that are vertically perpendicular to the central optical axis. The applicant does not disclose a main object changing means for designating a new main object.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44). In changing the main object area it would have been obvious to designate a direction relative to the current main object such as right or left to move the main object horizontally to be one of the walls as shown in figures 15a – 15c, or move the main object selection vertically to select the clouds also shown in figures 15a – 15c thereby selecting the main object from two directions horizontally and vertically perpendicular to the central optical axis.

**[claim 22]**

Referring to claim 22, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

**[claim 23]**

Referring to claim 23, the applicant discloses that the main object determining means automatically determines the main object area as discloses in the applicants conceded prior art.

**[claim 24]**

Referring to claim 24, the applicant does not show a main object area changing step for manually changing the main object area to another area.

However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44).

Therefore it would have been obvious to combine the teachings of Yoshino with the applicants conceded prior art to provide a manual main object changing means for changing the main object to another area that the user intends to be the main object.

**[claim 25]**

Referring to claim 25, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino

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discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44).

In changing the main object area of the applicant's prior art using the teachings of Yoshino, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a scene.

**[claim 26]**

Referring to claim 26, the applicant discloses a main object area determination step for determining a main object area out of the plurality of areas discriminated by the area discrimination means by computing an evaluation value being the probability of each area being the main object area by inputting the size and position of each area into a probability equation listed in the applicants prior art.

The applicant is only performing the evaluation to determine the main object area because the prior art of the applicant has no intent on changing the main object area so there is no step of deterring a priority order. However Yoshino discloses a teaching that focus systems that detect main objects in a scene may not always correctly focus on what the user intends to capture as the main object in a picture. Therefore Yoshino discloses that it would be advantageous to provide a means to manually change the focus area to focus on the main object the user intends to shoot (c. 2, ll. 33-44).

In changing the main object area of the applicant's prior art using the teachings of Yoshino, it would have been obvious to provide a priority order based on the evaluation values of the applicants prior art to determine an order to which the user may manually cycle through object areas to find the one most desirable for focusing upon. By listing object areas in order of priority it is more likely the user will find the correct main object area efficiently than by searching a random sequence of object areas in a scene.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yoshino in further view of Nagai.

**[claim 4]**

In regard to claim 4 Yoshino teaches a dial to control the position of the main object area, but lacks a plurality of dials. However, Nagai teaches a plurality of dials in figure 5 comprising a first dial 3 for designating an X coordinate and a second dial 4 for designating a Y coordinate in the image data for a cursor position (c. 3, ll. 52-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plurality of dials as taught by Nagai to allow the user to select a main object area at any location (X,Y) in the image.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yoshino in further view of Kitazawa.

**[claim 5]**

In regard to claim 5 Yoshino teaches a direction designation unit but lacks a slide-type designation member capable of designating at least two directions. However, the use of such slide-type designation members to select focus areas is well known in the art, one such example can be found in Kitazawa. Kitazawa discloses a slide-type focus area designator which can be placed near the shutter button close to the photographer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the focus area designation system of Kitazawa to be able to place the designation member closer to the photographer.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yoshino in further view of Kitazawa in further view of Swindler.

**[claim 6]**

Referring to claim 6, Kitazawa discloses a slide switch having two directions for changing the main object area by cycling through adjacent object areas. Kitazawa does not disclose multiple slide switches. However, Swindler discloses a cursor positioning device comprising a four-way slide-type designation member comprising two slide switches (Col. 4, Lines 1 – 39) . Therefore it and would have been obvious to provide the four way slide switch of Swindler with the object selecting means of Kitazawa so that the user can select an object of focus anywhere in the image, up, down, left, or right of center increasing the number of potential main objects.



8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yoshino in further view of Abe.

**[claim 7]**

Referring to claim 7, Yoshino discloses that a detected main object is changed by detecting the movement of a switch. Yoshino does not disclose a track ball as a direction designation means to manually select a main object. However Abe discloses a tack ball used by to user to manually select an object area in a scene sensed by the camera (Col. 18, Lines 42 – 61).

The applicant's conceded prior art shows that object areas are separated and numbered in the field of view as shown in figure 15c. Therefore it would have been obvious to provide the track ball of Abe as a means of allowing the user to directly select a main object from the plurality of areas determined by the object determining means of the applicants conceded prior art which would allow the user to find the main object in less time than cycling through each object on at a time.

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Yoshino in further view of Saito.

**[claim 20]**

Referring to claim 20, Yoshino discloses that a detected main object is changed by detecting the movement of a switch. Yoshino does not disclose a method of changing the main object based on object distance in the scene where the main object is changed based on the next object with next shorter or longer distance depending on

whether the user is selecting an object closer to or farther away from the camera relative to the current main object. However, Saito discloses a rotary dial used in a manual focus to set the object distance by during the dial one direction to increase object distance and turning the dial in the opposite direction to decrease the distance (Col. 6, Lines 39 – 58).

The applicant's conceded prior art shows that objects are determined based on their determined distance from the camera detected in the scene as shown in figure 15b. Therefore it would have been obvious to provide the rotary operation means and manual focus teachings of Saito with the object detection means of the applicants conceded prior art so that objects can be selected by rotating the dial in one direction to focus on a close object or rotate the dial in another direction to focus on a far away object detected in the scene.

**[claim 21]**

Referring to claim 21, Saito discloses that the direction designated is an optical direction relating to object depth in a scene (Col. 6, Lines 39 – 58).


***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH  
7/9/2004

  
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